

What is claimed is:

1. A method for screening a compound for use in the treatment of, or in the identification of a clinical or biological target for, a disease, said method comprising determining the ability of said compound to influence interactions involving alpha-methylacyl-CoA racemase.
- 5
2. A method according to Claim 1 wherein said interactions involving alpha-methyacyl-CoA racemase comprise interaction of alpha-methylacyl-CoA racemase with a ligand for alpha-methyacyl-CoA racemase.
- 10
3. A method according to Claim 1 wherein said interactions involving alpha-methylacyl-CoA racemase comprise an increase or decrease in an amount of alpha-methyacyl-CoA racemase.
- 15
4. A method according to Claim 1 wherein said interactions involving alpha-methylacyl-CoA racemase comprise over-expression or under-expression of alpha-methylacyl-CoA racemase as a result of such disease.
- 20
5. A method according to Claim 1 wherein said compound is selected from the group consisting of small organic compounds, proteins, carbohydrates and polynucleotides.
- 25
6. A method according to Claim 1 wherein said ligand is a CoA thioester of an alpha-methyl acyl fatty acid where the alpha carbon is an R-stereoisomer.
7. A method according to Claim 1 wherein said determining is carried out *in vivo*.
- 30
8. A method according to Claim 1 wherein said determining is carried out *in vitro*.

9. A method according to Claim 1 wherein said method comprises determining the amount or activity of alpha-methylacyl-CoA racemase resulting from the ability of said compound to influence the interaction of alpha-methyacyl-CoA racemase with a ligand for alpha-methylacyl-CoA racemase and 5 relating the amount or activity thereof to the effectiveness of said compound in the treatment of, or in the identification of a clinical or biological target for, a disease.

10. A method according to Claim 9 wherein said amount or activity of 10 said alpha-methylacyl-CoA racemase is measured by measuring the amount of said ligand.

11. A method according to Claim 1 wherein said method comprises determining the level of expression of alpha-methylacyl-CoA racemase resulting 15 from the ability of said compound to influence the expression of alpha-methyacyl-CoA racemase and relating the level thereof to the effectiveness of said compound in the treatment of, or in the identification of a clinical or biological target for, a disease.

20 12. A method for screening a small organic compound for use in the treatment of a disease, said method comprising:

(a) forming an analysis system comprising said compound and alpha-methylacyl-CoA racemase,

25 (b) incubating said analysis system under conditions for an interaction involving said alpha-methylacyl-CoA racemase to occur, and

(c) measuring the amount or activity of alpha-methylacyl-CoA racemase in said system and relating the amount or activity thereof to the effectiveness of said compound in the treatment of a disease.

30 13. A method according to Claim 12 wherein said analysis system comprises a host.

14. A method according to Claim 13 wherein said host is selected from the group consisting of a mammal, a mammalian cell line and mammalian tissue.

5 15. A method according to Claim 12 wherein said analysis system comprises a ligand for alpha-methylacyl-CoA racemase and said system is incubated under conditions for interactions involving said ligand and said alpha-methylacyl-CoA racemase to occur.

10 16. A method according to Claim 15 wherein said ligand is a CoA thioester of an alpha-methyl acyl fatty acid where the alpha carbon is an R-stereoisomer.

15 17. A method according to Claim 16 wherein said ligand is selected from the group consisting of branched chain fatty acids and C27 bile acid intermediate.

18. A method according to Claim 16 wherein said fatty acid is phytanic acid, pristanic acid or trimethylundecanoic acid.

20 19. A method according to Claim 15 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of said ligand.

25 20. A method for screening a small organic compound for use in the treatment of a disease, said method comprising:

- (a) forming an analysis system comprising said compound, alpha-methylacyl-CoA racemase and a ligand for alpha-methylacyl-CoA racemase,
- (c) incubating said analysis system under conditions for an interaction between said ligand and said alpha-methylacyl-CoA racemase to occur, and
- (c) measuring the amount or activity of alpha-methylacyl-CoA racemase in said system and relating the amount or activity thereof to the effectiveness of said compound in the treatment of a disease.

21. A method according to Claim 20 wherein the activity of said alpha-methylacyl-CoA racemase is measured.

22. A method according to Claim 21 wherein the activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of said ligand.

23. A method for screening a small organic compound for use in the treatment of a disease, said method comprising:

10 (a) forming an analysis system comprising said compound and a host that expresses alpha-methylacyl-CoA racemase,

(d) incubating said analysis system under conditions for an interaction involving said alpha-methylacyl-CoA racemase to occur, and

15 (c) measuring the amount or activity of alpha-methylacyl-CoA racemase in said system and relating the amount or activity thereof to the effectiveness of said compound in the treatment of a disease.

24. A method according to Claim 23 wherein said host is selected from the group consisting of a mammal, a mammalian cell line and mammalian tissue.

25. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of alpha-methylacyl-CoA racemase mRNA or protein.

25

26. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by measuring the amount of polyA plus RNA.

30

27. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured using an antibody specific for alpha-methylacyl-CoA racemase.

28. A method according to Claim 23 wherein the amount or activity of said alpha-methylacyl-CoA racemase is measured by cDNA amplification.

29. A method according to Claim 23 wherein the amount or activity of
5 said alpha-methylacyl-CoA racemase is measured by measuring the amount of epimerase activity.

30. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective
10 amount of a compound ascertained by the method of Claim 1.

31. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective amount of a compound ascertained by the method of Claim 12.

15

32. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective amount of a compound ascertained by the method of Claim 20.

20

33. A method for treating a disease, said method comprising administering to a subject with said disease a pharmaceutically effective amount of a compound ascertained by the method of Claim 23.

25

* * * * *